

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

To:

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09. Aug. 2004

Patent Department
Administration-Hannover

Date of mailing
(day/month/year) 06.08.2004 IPER VSW

Applicant's or agent's file reference PD020033 ✓		IMPORTANT NOTIFICATION	
International application No. PCT/EP 03/03826	International filing date (day/month/year) 12.04.2003	Priority date (day/month/year) 22.04.2002	
Applicant THOMSON LICENSING S.A. et al. ✓			

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.


4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international preliminary examining authority:	Authorized Officer
 <p>European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465</p>	<p>Commare, I</p> <p>Tel. +49 89 2399-2883</p>



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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PD020033	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/03826	International filing date (day/month/year) 12.04.2003	Priority date (day/month/year) 22.04.2002
International Patent Classification (IPC) or both national classification and IPC H02M1/00		
Applicant THOMSON LICENSING S.A. et al.		



1. This International preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 23.10.2003	Date of completion of this report 06.08.2004
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Roider, A Telephone No. +49 89 2399-2330 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/03826**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*):

Description, Pages

1-10 as originally filed

Claims, Numbers

1-8 received on 08.06.2004 with letter of 08.06.2004

Drawings, Sheets

1/2, 2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/03826**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-9
	No: Claims	
Inventive step (IS)	Yes: Claims	1-9
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 03/03826

Re Item V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The closest prior art is acknowledged by the applicant by the provision of the preambles of independent claims 1 and 6. This prior art is a switched mode power supply mainly comprising a mains power switch with two contacts, an input voltage rectifier and a transformer with a primary winding connected in series with a switching transistor and an auxiliary winding for providing power to a driver circuit for the switching transistor and whereby a demagnetization coil is connected across the input voltages terminals via controllable semiconductor switch and energy storage capacitor is connected between the rectifier and the primary winding.

The subject-matter of claims 1 and 6 differs from this prior art by the topological specification of the switching contacts with respect to the mains connection, the demagnetization coil, the auxiliary winding and the driver circuit.

The subject-matter of claims 1 and 6 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention with respect to the prior art acknowledged by the applicant consists in high voltages caused by the power factor coil when it is switched off and appearing across the the switching contacts of the mains switch and causing arcs there.

The proposed solution thereto is the interconnections of the switching contacts of the mains switch to the mains connection, the power factor coil, the auxiliary winding and the driver circuit as defined in the characterizing portions of claim 1 (lines 22-31) and claim 6 (lines 3-12).

The solution to this problem proposed in claims 1 and 6 of the present application is considered as involving an inventive step (Article 33(3) PCT) because the deteriorating effects of a demagnetization being switched off on switching contacts is not contemplated in any prior art document presently on file let alone are the connections of these contacts to the above cited components disclosed in any way.

Claims 2-5, 7 and 8 are dependent on claims 1 and 6 and as such also meets the requirements of the PCT with respect to novelty and inventive step.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 03/03826

A document reflecting the prior art defined in the preambles of claims 1 and 6 is not identified in the description (Rule 5.1(a)(ii) PCT).

The description is not in conformity with the claims as required by Rule 5.1(a)(iii) PCT.

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New claims 1 - 8

(Shall replace all present claims)

1. Circuit arrangement having a mains connection
5 (NA), a mains switch (S1) with a first and a second
switching contact (1, 2), a demagnetization coil (ES)
and a switch-mode power supply (I) comprising
a driver circuit (DC), a transformer (TR) with a
primary winding (W1) and an auxiliary winding (W2) for
10 providing a supply voltage (VCC) for the driver circuit
(DC), a switching transistor (T1) in series with the
primary winding (W1), the driver circuit (DC) producing
a control voltage (DS) for the switching transistor
(T1), a rectifier means (BR) for rectifying a mains
15 voltage, and an energy-storage capacitor (C1) coupled
between the rectifier means (BR) and the primary
winding (W1),
the circuit arrangement comprising further a power
factor coil (NS) for power factor correction, which is
20 arranged between the mains connection (NA) and said
energy-storage capacitor (C1), characterized in that
the first switching contact (1) is arranged
between the mains connection (NA) and the
demagnetization coil (ES) for switching the
25 demagnetization coil (ES) on and off, and
the second switching contact (2) is arranged
between the auxiliary winding (W2) and the driver
circuit (DC) for switching off the supply voltage
(VCC), or is arranged for switching off a control
30 voltage for the driver circuit (DC) in order to switch
off the switching transistor (T1).

2. The circuit arrangement as claimed in claim 1,
characterized in that a diode (D1) and a second
35 capacitor (C2) are coupled to a connection (A) of the
auxiliary winding (W2) in order to rectify and smooth
said supply voltage (VCC), and in that the second

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switching contact (2) is arranged between the second capacitor (C2) and the driver circuit (DC).

3. The circuit arrangement as claimed in claim 1 or
5 2, characterized in that the power factor coil (NS) is arranged upstream of the rectifier means (BR).

4. The circuit arrangement as claimed in one of the
preceding claims 1 - 3, characterized in that the
10 circuit arrangement comprises further a mains filter (NF), a first parallel capacitor (C4) between the mains filter (NF) and the mains connection (NA) and a second parallel capacitor (C3) between the mains filter (NF) and the rectifier means (BR), that the demagnetization
15 coil (ES) is arranged in parallel to the second parallel capacitor (C3) and in parallel to the rectifier means (BR), and that the connections (a, b) of the first switching contact (1) are connected in series between the second parallel capacitor (C3) and
20 the demagnetization coil (ES) for switching the demagnetization coil (ES) on and off.

5. The circuit arrangement as claimed in claim 4,
characterized in that a posistor (PS) is arranged in
25 series between the first switching contact (1) and the demagnetization coil (ES).

6. Circuit arrangement having a mains connection (NA), a user accessible mains switch (S1) with a first
30 and a second mechanical switching contact (1, 2), a demagnetization coil (ES) and a switch-mode power supply (I) comprising a driver circuit (DC), a transformer (TR) with a primary winding (W1) and an auxiliary winding (W2) for providing a supply voltage
35 (VCC) for the driver circuit (DC), and a switching transistor (T1) in series with the primary winding (W1), the driver circuit (DC) producing a control

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voltage (DS) for the switching transistor (T1),
characterized in that

the first switching contact (1) is arranged
between the mains connection (NA) and the
5 demagnetization coil (ES) for switching the
demagnetization coil (ES) on and off, and

the second switching contact (2) is arranged
between the auxiliary winding (W2) and the driver
circuit (DC) for switching off the supply voltage
10 (VCC), or is arranged for switching off a control
voltage for the driver circuit (DC) in order to switch
off the switching transistor (T1).

7. Appliance, having a circuit arrangement in
15 accordance with one of the preceding claims.

8. The appliance as claimed in claim 7, characterized
in that the appliance comprises a picture tube, on
which the demagnetization coil (ES) is mounted.

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